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## Report of the Strategic Planning Team: Executive Summary

Stephanie Pace Marshall

*Illinois Mathematics and Science Academy*

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# **REPORT of the STRATEGIC PLANNING TEAM**

**January 24, 1994**

## **Executive Summary**

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# **Inventing Our Future - IMSA's Strategic Plan**

January 22, 1994

Executive Summary

Stephanie Pace Marshall, Executive Director

## **Historical Overview**

On December 4, 1987, a representative group of faculty and all administrators convened for a day to reflect on our past, discuss our present, and begin to make plans for the future of the Illinois Mathematics and Science Academy. At that time, we discussed the need to engage in a formal process by which we would define who we were, what we were about, what we valued, and how we would direct our resources, (both financial and human), to achieve the goals that were inherent in the establishment of this unique institution.

This brief, but nonetheless intense discussion, resulted in the convening of a similar group to meet with an associate from Cambridge Management, (international consulting corporation in strategic planning), to discuss the process and discipline of strategic planning.

On December, 1988, Dr. Hatcher and I attended an intensive five-day training session on strategic planning.

In January, 1989, the process and discipline of strategic planning was presented to the Board of Trustees, and the Board unanimously approved our involvement in strategic planning and authorized the retention of Cambridge Management Associates to serve as external facilitators for our plan; Dr. Hatcher was designated as the Academy's internal facilitator.

A Strategic Planning Team, composed of twenty-five representatives of the IMSA community was selected, and on May 17-20, 1989, we engaged in the *first planning session*.

Since that time, IMSA's Strategic Plan has formally been modified twice; once in 1992, and again in 1993, following formal annual review sessions. The Strategic Planning Team has also undergone modifications due to changes in staff. However, despite the intense critique that the plan sustains on an annual basis, we have remained steadfast in our commitment to the

development of ethical leadership and integrative thought through the discovering and forging of connections within and among the disciplines, and now in 1994, we have explicitly declared a new commitment to the transformation of mathematics and science teaching and learning through interconnections.

## **Overview of Plan Development for 1992-1993**

As an outgrowth of the first planning session in 1989, several key components of IMSA's Strategic Plan were drafted. These included:

- Belief Statements
- Mission Statement
- Strategic Policies
- Objectives, and
- Strategies

In addition to these components, internal and external analyses were conducted. The internal analysis consisted of a critique of organizational strengths, weaknesses, and structure; and the external analysis evaluated our competition and our "environment" in terms of six critical factors, (social, political, demographic, economic, technological, and educational trends and developments).

During the annual updates in 1992 and 1993, each component of the plan and the progress made in action plans were reviewed.

In preparation for our Second Annual Update in April, 1993, the Strategic Planning Team convened on October 14, 1992, to raise any issues, questions, or concerns about the plan or the planning process and to establish a means to secure community feedback on the plan during the year. Community concerns would then be addressed in the Team's review in the spring.

Community Meetings were held to elicit staff and student comments.

The Strategic Planning Team then met on April 14, 1993, to review input from the IMSA community meetings, to discuss possible revisions/modifications in the plan, and to list any team or personal questions/concerns about the current plan.

The Second Annual Update took three days and occurred on April 21 and 22, and May 11, 1993

Following the development of the plan by the Strategic Planning Team, seven community meetings were held to acquaint the staff and students about the plan.

The draft of the plan was discussed with the Board of Trustees on August 9, 1993, Board approval will be sought on January 22, 1994.

Action Teams were convened in September, and worked for twelve weeks to develop action plans.

## **Overview of Strategic Planning - Process and Discipline**



Strategic planning is designed to be a dynamic and organic discipline and process that enables an institution to constantly recreate itself toward extraordinary purpose. It is not designed to be a static, linear or rigid process; it is intended to concentrate an organization's resources (people, time, and dollars) on mutually, predetermined, measurable outcomes. The discipline of strategic planning includes the critical components of the plan itself; these include:

- Beliefs
- Mission
- Strategic Policies
- Internal Analysis: *Strengths, Weaknesses, Organizational Structure*
- External Analysis: *Competition, Environmental Scan*
- Objectives
- Strategies
- Action Plans

The *process* of strategic planning is the organizational dynamic by which these critical components are derived, and includes intense community dialogue and participation.

Both the discipline and the process are focused on the utilization of the organization's resources to achieve desired outcomes and priorities.

The *focus* of strategic planning is to help to make decisions about the future before the future either forces the decisions or renders them irrelevant.

## Belief Statements

All strategic plans (facilitated by the Cambridge Group) begin with a statement of beliefs- a formal expression of the organization's fundamental values and ethical convictions and commitments. The Belief Statements represent for us a description "the ethical character" of the Illinois Mathematics and Science Academy. They are a composite and distillation of the shared values of the Strategic Planning Team as representatives of the IMSA community.

Our beliefs acknowledge not only what the Academy is, but they represent an expression of what we aspire to be. The Belief Statements provide the "value context" within which subsequent portions of our plan were developed and evaluated.

Although we are an educational institution, our Belief Statements are not intended to be "educational" in nature; rather they represent the ethical foundation we have committed ourselves to embody in our actions toward one another.

*We believe that*

- *meaning is constructed not prescribed.*
- *all individuals have equal intrinsic worth.*
- *all people have an innate desire to learn.*
- *the human mind is the world's greatest resource.*
- *each person has the potential to change and to bring about change.*
- *without trust no human relationship can thrive.*
- *the survival of global civilization depends primarily upon the quality*
- *of the education provided to all people.*
- *each person is responsible for his/her own choices and actions.*

- *belonging to a group requires alignment of self-interests and the common good.*
- *excellence is worth the effort, but not always worth the costs.*
- *achieving our vision of the future depends upon our willingness to*
- *sacrifice. aversion to risk-taking stifles innovation and creativity.*
- *learning is an individual, life-long endeavor.*
- *valuable learning results from both failing and succeeding.*
- *all adults share responsibility for the well-being of all children.*
- *the ability to discern and create connections is the essence of*
- *knowing.*
- *a good life is characterized by harmony among the emotions, the body, the intellect, and the spirit.*
- *the process of education is more than the accumulation of facts.*
- *ethical conduct is essential to a harmonious life.*

IMSA's Belief Statements *do not* represent a "*credo*" --that would be dangerous and offensive to all of us, especially given the kind of risk-taking and inquiry-based, learning community we are striving to create. However, the Strategic Planning Team does believe that all of us must contribute to the life of the Academy and the well-being and nurturance of our students, and therefore, must act in accordance with these beliefs as ethical standards for our individual and collective behavior.

## Mission Statement

Our Mission is a succinct statement of the Academy's *identity* (who we are), *purpose* (what we want to do), and *function* (how we want to do it). It is intended to reflect the clarity of thinking and the vision characteristic of this institution. We believe our Mission Statement not only acknowledges the reality of the Academy's commitments, but also dramatically stretches and challenges us because we have declared, really for the first time, that we are in the business of *transformation*.

*The mission of the Illinois Mathematics and Science Academy, a pioneering educational community, is to transform mathematics and science teaching and learning, by developing ethical leaders who know the joy of discovering and forging connections within and among mathematics, science, the arts, and the humanities by means of an exemplary laboratory environment characterized by research, innovative teaching, and service.*

Our Mission also represents a commitment to the distinctness and uniqueness that sets this institution apart from all others-even similar institutions. The Mission Statement is the keystone upon which the entire plan depends, and everything else in the Plan is derived from, and must be evaluated, by the Mission Statement.

The Mission also serves to focus our attention and concentrate our energies on one common purpose.

The development of this Mission took many days of intense individual dialogue and deliberation. But we believe it sets us apart because we have now publicly stated that we are in the business of "transforming teaching and learning in mathematics and science through the development of ethical leaders who know the joy of discovering and forging connections within and among mathematics, science, the arts, and the humanities ," and we will achieve this purpose within the context of "an exemplary laboratory environment characterized by research,



innovative teaching, and service." All portions of the Plan come together to provide the efficacy of the Mission. The Mission Statement, therefore, "tests" the Plan, and the Plan "tests" the Mission.

## Strategic Policies

The policies that we have developed in keeping with the discipline of strategic planning are not traditional board policies. They are behavioral parameters that the Academy willingly places upon itself, and they are the parameters within which we have agreed to interact with one another. By design, and in order to show the strength of our commitments, policies are stated as things Academy staff will never do, or always do.

We will practice participatory decision-making throughout the organization.

We will not tolerate actions designed to diminish the self-esteem of any student or staff member.

We will not compromise the quality of our programs and practices.

We will employ and retain only those staff members who act in accordance with the beliefs and mission of the Illinois Mathematics and Science Academy.

We will admit a student body that will reflect the population distribution of Illinois and that is capable of completing the Academy's graduation requirements.

We will make all decisions that affect students strictly on what is best for their total development.

IMSA's strategic policies articulate our behavioral expectations for all members of the Academy community; they describe what living in and contributing to our community means and "looks like."

## Objectives

The Academy's Objectives represent our commitment to achieve specific, measurable objectives. The objectives are tied inextricably to the Mission Statement, and in fact spring from and define the Mission; but they also represent a direct and positive response to how we internally view the Academy and externally view the forces that will impact on us in the years ahead. The objectives are those measurable outcomes that we must achieve if we are to accomplish our mission.

- *There will be a generally accepted paradigm for teaching and learning mathematics and science that embodies interconnections as the basis for understanding.*
- *The achievement of Illinois students in mathematics and science will be defined and assessed by a new system of indicators.*
- *Materials and methods inspired or developed by IMSA and its partners will be so good that they will be the choice of Illinois educators for the foundation of their mathematics*

*and science programs.*

The three objectives the Strategic Planning Team has established will position the institution as a leading force in mathematics and science teaching and learning in our state and our nation. By stating the objectives as we have, we made three commitments:

1. As a result of our work in integrative thinking and the forging and discovering of connections, a new teaching and learning paradigm will be defined and accepted.
2. Students achievement in Illinois will be defined and measured by the new indications of achievement derived from this new paradigm (of interconnections).
3. IMSA will develop materials and strategies that will be viewed by educators to be so valuable to their teaching and their student's learning that they will become the choice of their program.

## **Strategies**

1. The Strategies represent the most critical part of the planning discipline and the Plan itself. Strategies articulate the bold commitments that the institution has developed to deploy our resources toward stated objectives.
2. We will establish and maintain a research and development system devoted to advancing understanding and practice of integrative teaching and learning.
3. We will build a foundation for statewide systemic change in mathematics, science, and technology education by developing and supporting partnerships with students, teachers and staff in schools, colleges/universities, within the private sector, and among agents of public policy throughout Illinois.
4. We will recruit, support, and retain a diverse student population composed of learners of exceptional talent in mathematics and science.
5. We will design an institutional advancement plan that will secure the support and participation of a constituency of individuals, corporations, foundations, educational institutions, and governmental agencies committed to the Illinois
6. We will ensure a living and learning environment that stimulates and supports the academic, personal, and social development of each student.
7. We will recruit, support, and retain a diverse staff.
8. We will model the optimal use of information and communication technologies in support of our mission.

Essentially, the strategies tell how we will accomplish our objectives. For that reason, the strategy statements were designed to allow for practical flexibility as they are translated into action. Only to the degree that the strategies possess inherent power to move the Academy toward our objectives will we be able to chart our course. In our judgment, the Academy's power resides in the strategies, and they have been designed to be transformational in nature and to reflect our commitment to research and development, diversity, external partnerships, student



development, technology, and organizational infrastructure redesign..

## Action Plans

Action Plans have been developed and approved by the Strategic Planning Team. Project Teams designed and developed the Action Plans and the Executive Leadership Team (ELT) will serve as the monitoring and support team for plan implementation and resource allocation.

## Strategies I and II

I) We will establish and maintain a research and development system devoted to advancing understanding and practice of integrative teaching and learning.

II) We will build a foundation for statewide systemic change in mathematics, science, and technology education by developing and supporting partnerships with students, teachers and staff in schools, colleges/universities, within the private sector and among agents of public policy throughout Illinois.

### Action Plan 1

*Title:* Refinement of Integrative Learning System

*Specific Objective:* Refine the Integrative Learning System (ILS) as a framework for curriculum decision-making and as a foundation for internal and external partnership initiatives.

*Summary of Action Plan:* Description of the ILS as a framework for curriculum decision making with external partnerships.

### Action Plan 2

*Title:* Exploring Potential Partnerships

*Specific Objective:* Explore potential K-16 partnerships statewide and beyond to advance teaching and learning.

*Summary of Action Plan:* Identification of needs of Illinois educators through focus groups, database establishment, and ongoing communication.

### Action Plan 3

*Title:* Establishing K-16 Partnerships

*Specific Objective:* Establish and support K-16 partnerships and networks of Illinois educators to investigate issues of integrative teaching and learning within and among disciplines.

*Summary of Action Plan:* Focus groups of K-16 educators suggest and explore interest in partnerships. Data serves to determine means of communication and development of research protocols. Annual conference convened to advance partnerships.

## Action Plan 4

*Title:* Evaluating Curriculum and Partnership Initiatives

*Specific Objective:* Design and Implement a process to assess and evaluate current and future curriculum and partnership initiatives.

*Summary of Action Plan:* Application of POP to the advancement of partnership initiatives.

## Action Plan 5

*Title:* Identifying Products for Sharing Through Partnerships

*Specific Objective:* Using the refined ILS as a filter, gather and share examples of internally and externally developed curriculum and assessment materials which are suitable for sharing through partnerships.

*Summary of Action Plan:* Identification of products and services for exportability

## Action Plan 6

*Title:* Products and Services Promoting Transformation

*Specific Objective:* Identify internally developed products and services which will promote transformation of mathematics and science teaching and learning.

*Summary of Action Plan:* Audit, review, and evaluation of internal products and services. Creation of System for Partnership Initiatives Advisory Council.

## Action Plan 7

*Title:* Securing Exposure for IMSA's Work

*Specific Objective:* Secure Statewide and national exposure for IMSA's work to build visibility, credibility, and attract resources to fund curriculum and partnership initiatives.

*Summary of Action Plan:* Convene Institutional Advancement Council to determine visibility and credibility for initiatives. Assess funding sources and pursue contacts.

## Strategy III

We will recruit, support, and retain a diverse student population composed of learners of exceptional talent in mathematics and science.

### Action Plan 1

*Title* Evaluation of current admission criteria

*Specific Objectives:* Determine whether current admission variables validly predict success at IMSA among a diverse student population.

*Summary of Action Plan:* Conduct study to determine "success" of students at IMSA.

## Action Plan 2

*Title:* Assessment of off-grade level admits.

*Specific Objective:* To determine the appropriateness of admitting students who have not completed ninth grade prior to entering IMSA.

*Summary of Action Plan:* Define problem performance and assess incidents and intervention of younger students admitted to IMSA.

## Action Plan 3

*Title:* Conditional Admission Status

*Specific Objective:* To admit students whose previous academic credentials may be deficient, but who we believe have the potential to meet IMSA's graduation requirements.

*Summary of Action Plan:* Define, communicate, and pilot and evaluate conditional admission.

## Action Plan 4

*Title:* Deferred Admission Option.

*Specific Objective:* To promote sustained interest in attending IMSA among qualified underrepresented groups.

*Summary of Action Plan:* Define and pilot deferred admission status for underrepresented populations.

## Action Plan 5

*Title:* IMSA Writing Center

*Specific Objective:* To establish a writing center at IMSA for delivering an effective system for tutoring in writing and English for ISL students.

*Summary of Action Plan:* Develop and implement on-site writing sample to determine tutoring needs; establish writing center, identify tutors, and evaluate program.

## Action Plan 6

*Title:* Community Relations

*Specific Objective:* To promote cultural awareness and understanding of others.

*Summary of Action Plan:* Improvement of community relations through multi-cultural awareness.



## Action Plan 7

*Title:* Socialization to IMSA Community

*Specific Objective:* Promote positive adaptation to a new educational and residential environment that includes people with wide-range backgrounds, values, and expectations for behavior.

*Summary of Action Plan:* Expanded orientation and socialization of students.

## Action Plan 8

*Title:* Review Definition of EXCEL Activities

*Specific Objective:* To assess and improve EXCEL activities in order to support IMSA's diverse population.

*Summary of Action Plan:* Evaluate, refine, implement, EXCEL Program.

## Action Plan 9

*Title:* Racial, Ethnic, Religious and Sexual Orientation Harassment Policy for IMSA Students and Staff.

*Specific Objective:* To explicitly prohibit through official Board action the practice of racial, ethnic, sexual orientation or religious harassment.

*Summary of Action Plan:* Development of Board policy for students and staff assuring freedom from discrimination and harassment.

## Action Plan 10

*Title:* Comprehensive Academic Support System

*Specific Objective:* To create an integrated academic support team to promote a comprehensive system for monitoring and delivering academic support for students failing or in danger of failing courses at IMSA.

*Summary of Action Plan:* Convene Academic Support Team to define, develop, and implement intervention plan.

## Action Plan 11

*Title:* Follow-up Interview for Non-returning Students

*Specific Objective:* To assess the causes of student attribution in order to develop a more appropriate mechanism to identify student support needs.

*Summary of Action Plan:* Implement follow-up interviews with students withdrawing; analyze, synthesize, and evaluate data.

## Action Plan 12



*Title:* Re-Invitation Process Review

*Specific Objective:* To review current practice and establish criteria for re-invitation and the process by which re-invitation review is to be conducted.

*Summary of Action Plan:* Task force evaluates and revises re- invitation process for Board policy revision.

## Strategy V

We will ensure a living and learning environment that stimulates and supports the academic, personal, and social development of each student.

### Action Plan 1

*Title:* Residential Curriculum

*Specific Objective:* To define, communicate and evaluate the expectations for students as ethical leaders.

*Summary of Action Plan:* Design and implement a residential curriculum using the Integrative Learning System.

### Action Plan 2

*Title:* Ethical Leadership Opportunities

*Specific Objective:* Identify and develop programs and opportunities for students to demonstrate ethical leadership.

*Summary of Action Plan:* Redesign work and community service to include and address ethical leadership.

### Action Plan 3

*Title:* Coordinator of Multicultural Programs and Services.

*Specific Objective:* Develop and implement support mechanisms to meet the individual needs of a diverse community.

*Summary of Action Plan:* Develop and implement Multi-cultural Program and Services.

### Action Plan 4

*Title:* Summer Orientation

*Specific Objective:* To acquaint students and parents with one another and IMSA prior to their sophomore year.

*Summary of Action Plan:* Feasibility study to expand orientation for students and parents to a summer experience.

## Action Plan 5

*Title:* Re-Conceptualization of How Time Can Be Used to Best Meet the Needs of Students.

*Specific Objective:* To coordinate and reduce the workload of the sophomore students through greater communication between teaching faculty, coordinated assignments and facilitating connections of assignments among disciplines.

*Summary of Action Plan:* Data gathering relating to sophomore workload in pilots and other courses.

## Action Plan 6

*Title:* Advisor Program

*Specific Objective:* To develop an Advisory Program that will ensure increased and sustained adult nurturing of students.

*Summary of Action Plan:* Study of Student Advisor Program.

## Action Plan 7

*Title:* Discipline Procedures

*Specific Objective:* To revise the present disciplinary policy to better support the academic, personal, and social development of students.

*Summary of Action Plan:* Assess and revise student disciplinary policy.

## Action Plan 8

*Title:* Parent Involvement

*Specific Objective:* Provide opportunities for increased and sustained positive parent involvement.

*Summary of Action Plan:* Expanded parent involvement opportunity.

## Strategy VI

We will recruit, support, and retain a diverse staff.

### Action Plan 1

*Title:* Recruitment of Diverse Staff

*Specific Objective:* To increase the pool of diverse applicants for all vacancies at the Academy.

*Summary of Action Plan:* Expansion of recruitment efforts and networks.

## Action Plan 2

*Title:* Recruitment and Retention of a Diverse Staff

*Specific Objective:* To better assure freedom from discrimination and support for diversity for all Academy personnel through the development of official Board policy.

*Summary of Action Plan:* Expand Equal Employee Opportunity policy.

## Action Plan 3

*Title:* Recruitment of Diverse Staff

*Specific Objective:* To increase the number of minority connections for students and build network of diversity.

*Summary of Action Plan:* Expanded diversity of host families, mentors, community service, and parent support.

## Action Plan 4

*Title:* Recruitment and Retention of Diverse Staff.

*Specific Objective:* To better identify and address IMSA cultural and environmental attributes that facilitate and inhibit the celebration of diversity.

*Summary of Action Plan:* Develop and implement exit interviews for staff.

## Action Plan 5

*Title:* Retention of Diverse Staff.

*Specific Objective:* To reorganize and celebrate diversity through orientation and professional development programs that are ongoing and comprehensive.

*Summary of Action Plan:* Develop and implement multi-cultural awareness programs/training.

## Action Plan 6

*Title:* Retention of Diverse Staff

*Specific Objective:* To heighten the awareness and understanding of multi-culturalism in an educational setting through expanded orientation and professional development opportunities for staff.

*Summary of Action Plan:* Expand orientation program, embedding multi-cultural issues.

## Action Plan 7



*Title:* Retention of Diverse Staff.

*Specific Objective:* To expand and enhance professional development programs to better understand and celebrate diversity in the Academy community.

*Summary of Action Plan:* Embedding of multi-cultural issues in professional development.

## Action Plan 8

*Title:* Retention of Diverse Staff.

*Specific Objective:* To enhance support systems for new staff through the development and implementation of a mentoring program.

*Summary of Action Plan:* Establishing a mentoring program for all new staff.

## Action Plan 9

*Title:* Retention of Diverse Staff.

*Specific Objective:* To increase the awareness and understanding of issues of diversity and the implications for program development.

# Strategy VII

We will model the optimal use of information and communication technologies in support

## Action Plan 1

*Title:* Technology Allocation Process

*Specific Objective:* Create a mechanism by which the allocation of technology can be coordinated and synchronized with the steps of other strategic and operational plans, consistent with the mission.

*Summary of Action Plan:* Create Technology Advisory Group to review and recommend allocations and gather data.

## Action Plan 2

*Title:* Quality of the Technological Environment

*Specific Objective:* Insure that the quality of information and communication resources and systems necessary to the accomplishment of our mission is constantly maintained.

*Summary of Action Plan:* Upgrade and replacement of technology hardware and software.

## Action Plan 3



*Title:* Accountabilities

*Specific Objective:* Establish clearly defined accountabilities for use, maintenance, and learning of technology.

*Summary of Action Plan:* Define accountability based on data gathering through survey of policies, procedures, and expectations of staff and student use of technology.

Action Plan 4

*Title:* Orientation and Training

*Specific Objective:* Orient and train staff so the IMSA community can make optimal use of appropriate technologies to advance the Academy's mission.

*Summary of Action Plan:* Establish formal technology orientation plan for staff based on need.

Action Plan 5a

*Title:* Telecommunications Infrastructure

*Specific Objective:* Establish a flexible, efficient, maintainable telecommunications infrastructure to support and promote the ongoing growth and development of a statewide Electronic Learning Community.

*Summary of Action Plan:* Develop and install a facilities wing plan for integrated voice, video, and data telecommunications.

Action Plan 5b

*Title:* Telecommunication Links

*Specific Objective:* Upgrade and expand telecommunication links to wide-area networks for the broadcast of classes, lectures, and presentations; the exchange of information, the development of collaborative partnerships and projects, professional development, and other Electronic Learning Community activities.

*Summary of Action Plan:* Upgrade of current links and exploration of satellite links and cellular communication protocols.

Action Plan 5c

*Title:* Transformational Technology Lab

*Specific Objective:* As the central components of an integrated data, video, and voice network linking the Electronic Learning Community both within and outside the Academy, upgrade existing labs to fully integrated transformational technology labs at the Academy.

*Summary of Action Plan:* Upgrade of lab areas in the academic building.

Action Plan 6

*Title:* Information Access

*Specific Objective:* Support and promote access to both local and wide-area multiple-media, (print, electronic, and other media), information resources which advance new mission initiatives.

*Summary of Action Plan:* Access and support to multiple-media information resources, based on Needs Survey and process mapping.

## **Significance of IMSA's Strategic Plan**

As leaders of mathematics, science, and technology in our state, we face an enormous task as we work to restructure our present system of mathematics and science education to achieve the goals that we must within the next decade.

For years we have had a barrage of reports on the achievement, or lack thereof, of our nation's students in mathematics and science; what we are finding out is that while our students demonstrate adequate levels of knowledge, understanding, and the ability to apply basic scientific information, and do moderately complex procedures in mathematics, the majority could not analyze scientific data, integrate specialized scientific information, or perform multi-step problem-solving.

In light of these findings, it is clear that the United States must restructure curriculum, teaching, learning, and assessment in mathematics and science, within a learning environment characterized by reflective inquiry, problem-solving, challenge, and freedom to take risks.

To facilitate discovery in mathematics and science, we must model the very essence of scientific inquiry. To understand them as ways of thinking, and perceiving, and behaving, as well as bodies of knowledge, requires that students have direct experience with their modes of inquiry, research, experimentation, and data collection and analysis.

In addition to designing the curriculum within the environment that facilitates reflective and integrative thinking, we must also develop measures that truly assess student learning—measures that accurately reflect independent thought, research, analysis, synthesis, and problem-solving, and which provide evidence of mathematical and scientific reasoning, communication, and reflective thinking.

Multiple assessment strategies that provide evidence of students learning in all aspects of mathematical and scientific knowledge and their interconnections and must be constructed. Knowing mathematics and science by doing and making mathematics and science in a technological world differs from developing a sequence of skills or objectives when technology was limited, and when mathematical and scientific applications were confined.

The Academy's Strategic Plan has clearly focused on the fundamental initiatives that must be restructured to achieve the level of performance in mathematics and science demanded in the 21st Century.

As a Strategic Planning Team, we are proud of the boldness and hopefulness of this plan. We hope you are as well.

## Personal Postscript

It is difficult to capture on paper the authentic commitment to making a difference in teaching and learning in our state and our nation that permeates this plan. I am enormously proud of the energy and dedication of our staff to our future.

Strategic Planning is not an easy process; it calls for intellectual and emotional honesty, intense dialog and debate, authentic listening, and a personal affirmation of values and beliefs. Each individual on the Strategic Planning Team has had to declare "what he/she will go to the wall for," and in so doing, we found out that we stand together in what we value and in our unalterable commitment to the uniqueness and importance of this institution, our role to develop ethical, responsible leaders, and our commitment to transform the teaching and learning of mathematics and science through the discovering and forging of connections within and among the disciplines.

We are blessed in this institution with not only enormous talent, but people of goodwill, who are willing to be honest, take risks, and arrive at consensus because they recognize that despite past success, future success depends on re-invention and a willingness to look at things in new ways.

Although our written plan will continue to grow and change as IMSA continues to evolve, I do believe we are charting a course to create a legacy for this institution. The Illinois Mathematics and Science Academy will indeed make a difference, not only in the lives of children, but in teaching and learning in our nation.

On a personal note, I want to thank the Board of Trustees for continuing to endorse and be a part of our work together. Without your affirmation and belief in our collective ability to shape the future of this institution, we would not have engaged in this process, and we would not have developed the vision we now have. We sincerely hope that you see the hope that we see, and the future we are re-creating, is also one you can embrace.

*bigcufan* | 18.10.95